

CLAIMS

1. A method of processing messages, comprising:

transmitting a message from a network device to a first computer that is remote from said network device, said message including information obtained from sensors of the network device;

receiving the message by the first computer;

determining, by the first computer, if a communication containing at least part of the message, including at least some of the information obtained from the sensors, is to be transmitted from the first computer to a second computer;

transmitting the communication from the first computer to the second computer in response to the determination made by the first computer; and

receiving said communication by the second computer.

2. The method according to Claim 1, wherein the message comprises information regarding usage of the device.

3. The method according to Claim 1, wherein the message comprises an Internet electronic mail message.

4. The method according to Claim 1, wherein the communication generated by the first computer comprises an electronic mail message.

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Related Pending Application	
Related Case Serial No:	<u>10/665,536</u>
Related Case Filing Date:	<u>09-22-03</u>

5. The method according to Claim 1, wherein the message comprises an Internet electronic mail message, and the communication generated by the first computer comprises an electronic mail message.

6. The method according to Claim 1, further comprising:
generating, by the first computer, the communication to include summary information regarding usage of the device,

wherein the step of transmitting the communication from the first computer comprises transmitting, by the first computer, the communication that includes the information regarding usage of the device to the second computer.

7. The method according to Claim 1, wherein the network device is a business office device.

8. The method according to Claim 7, wherein the business office device is at least one of a printer, a copier, and a facsimile machine.

9. The method according to Claim 1, wherein said step of transmitting the message comprises:

transmitting said message from the network device to the first computer without going through the second computer.

10. The method according to Claim 1, further comprising:

transmitting a message from the network device to the second computer, said message including said information obtained from the sensors of the network device.

11. A system for processing messages, comprising:

means for transmitting a message from a network device to a first computer that is remote from said network device, said message including information obtained from sensors of the network device;

means for receiving the message by the first computer;

means for determining, by the first computer, if a communication containing at least part of the message, including at least some of the information obtained from sensors, is to be transmitted from the first computer to a second computer;

means for transmitting the communication from the first computer to the second computer in response to the determination made by the first computer; and

means for receiving said communication by the second computer.

12. The system according to Claim 11, wherein the message comprises information regarding usage of the device.

13. The system according to Claim 11, wherein the message comprises an Internet electronic mail message.

14. The system according to Claim 11, wherein the communication generated by the first computer comprises an electronic mail message.

15. The system according to Claim 11, wherein the message comprises an Internet electronic mail message, and the communication generated by the first computer comprises an electronic mail message.

16. The system according to Claim 11, further comprising:
means for generating, by the first computer, the communication to include summary information regarding usage of the device,
wherein the means for transmitting the communication from the first computer comprises means for transmitting, by the first computer, the communication that includes the information regarding usage of the device to the second computer.

17. The system according to Claim 11, wherein the network device is a business office device.

18. The system according to Claim 17, wherein the business office device is at least one of a printer, a copier, and a facsimile machine.

19. The system according to Claim 11, wherein said means for transmitting the message comprises:

means for transmitting said message from the network device to the first computer without going through the second computer.

20. The system according to Claim 11, further comprising:

means for transmitting a message from the network device to the second computer which is local to the device, said message including said information obtained from the sensors of the network device.

21. A method of monitoring at least one network device communicatively coupled to a local network, comprising:

accessing the at least one network device by a service center computer that is remote from said local network to obtain device status information of the at least one network device, including information obtained from sensors of the at least one network device;

storing the obtained device status information;

periodically processing the stored status information to generate a usage report for the at least one network device;

transmitting the usage report from the service center computer to a second computer; and
receiving the usage report by the second computer.

22. The method of claim 21, wherein the transmitting step comprises:

transmitting the usage report from the first computer to the second computer as an e-mail message, wherein said e-mail message is transmitted at an application layer.

23. The method of claim 21, wherein the transmitting step comprises:

transmitting the usage report from the first computer to the second computer as a facsimile message.

24. The method of claim 21, further comprising:

translating the usage report into a format suitable for display on a web page; and
receiving a request for transmission of the usage report from the second computer.

25. A system for monitoring at least one network device communicatively coupled to a local network, comprising:

means for accessing the at least one network device by a service center computer that is remote from said local network to obtain device status information of the at least one network device, including information obtained from sensors of the at least one network device;

means for storing the obtained device status information;

means for periodically processing the stored status information to generate a usage report for the at least one network device;

means for transmitting the usage report from the service center computer to a second computer; and

means for receiving the usage report by the second computer.

26. The system of claim 25, wherein the means for transmitting comprises:

means for transmitting the usage report from the first computer to the second computer as an e-mail message, wherein said e-mail message is transmitted at an application layer.

27. The system of claim 25, wherein the means for transmitting comprises:

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RSID 1-272-1 CIP

means for transmitting the usage report from the first computer to the second computer as a facsimile message.

28. The system of claim 25, further comprising:

means for translating the usage report into a format suitable for display on a web page;

and

means for receiving a request for transmission of the usage report from the second computer.

ABSTRACT

A method, system, and program product for communicating with machines connected to a network. Information sent to or from the machines is transmitted using electronic mail or via a direct connection. The electronic mail may be transmitted over the Internet to a service center or from a service center to a resource administrator, but also may remain within a local or wide area network for transmission between a machine and a resource administrator. E-mail messages may be transmitted from a computer which is attached to a device that is being monitored or controlled and include information regarding the status, usage, or capabilities of the attached device. The device may send status messages and usage information of the device to either a resource administrator or to a service center on the Internet through a firewall. The message may be sent directly to the resource administrator station if urgent service is needed by the device. For routine information, the service center may manage all the resources on an intranet and may send predetermined types of information to the resource administrator using e-mail.

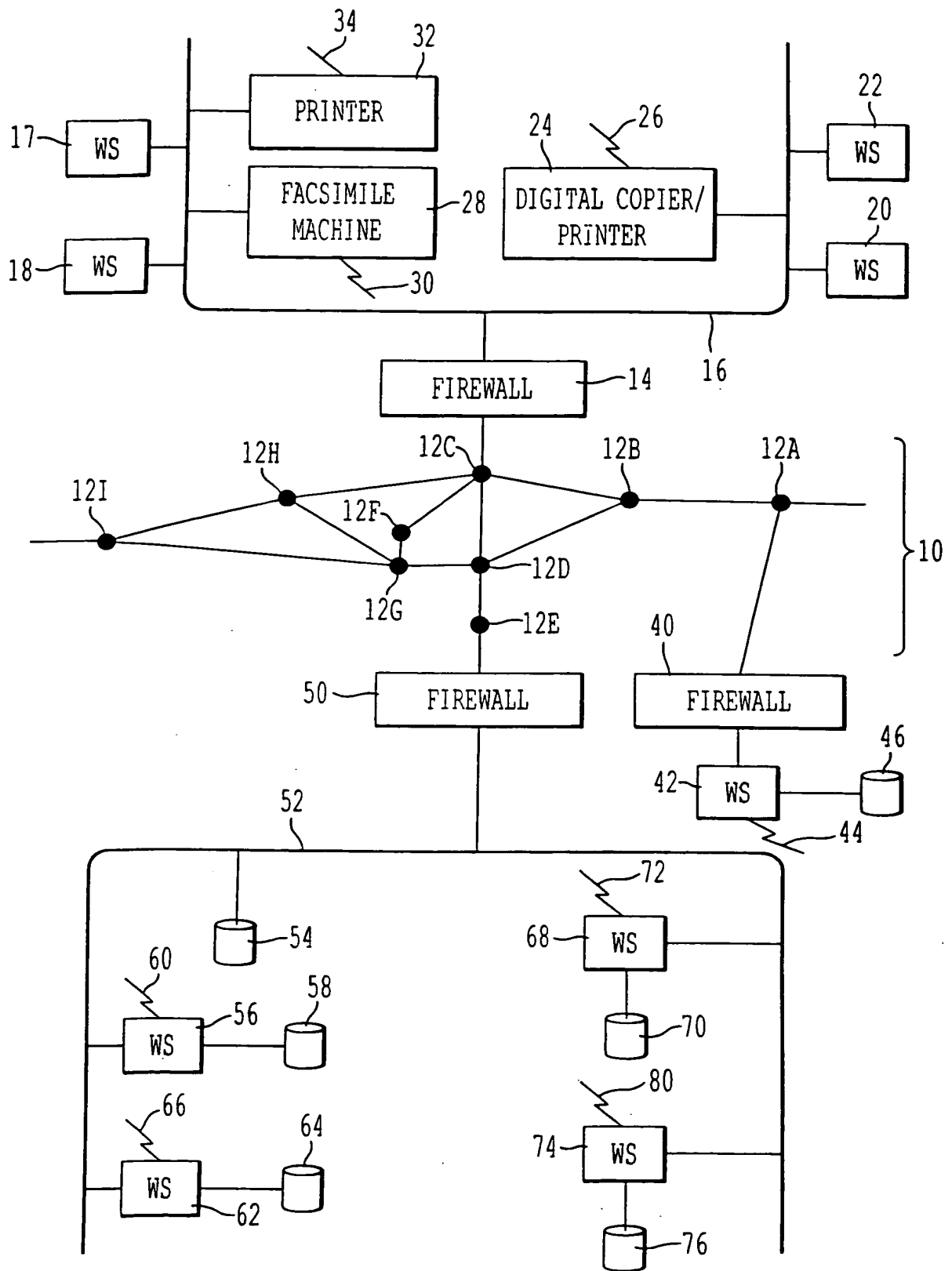


FIG. 1

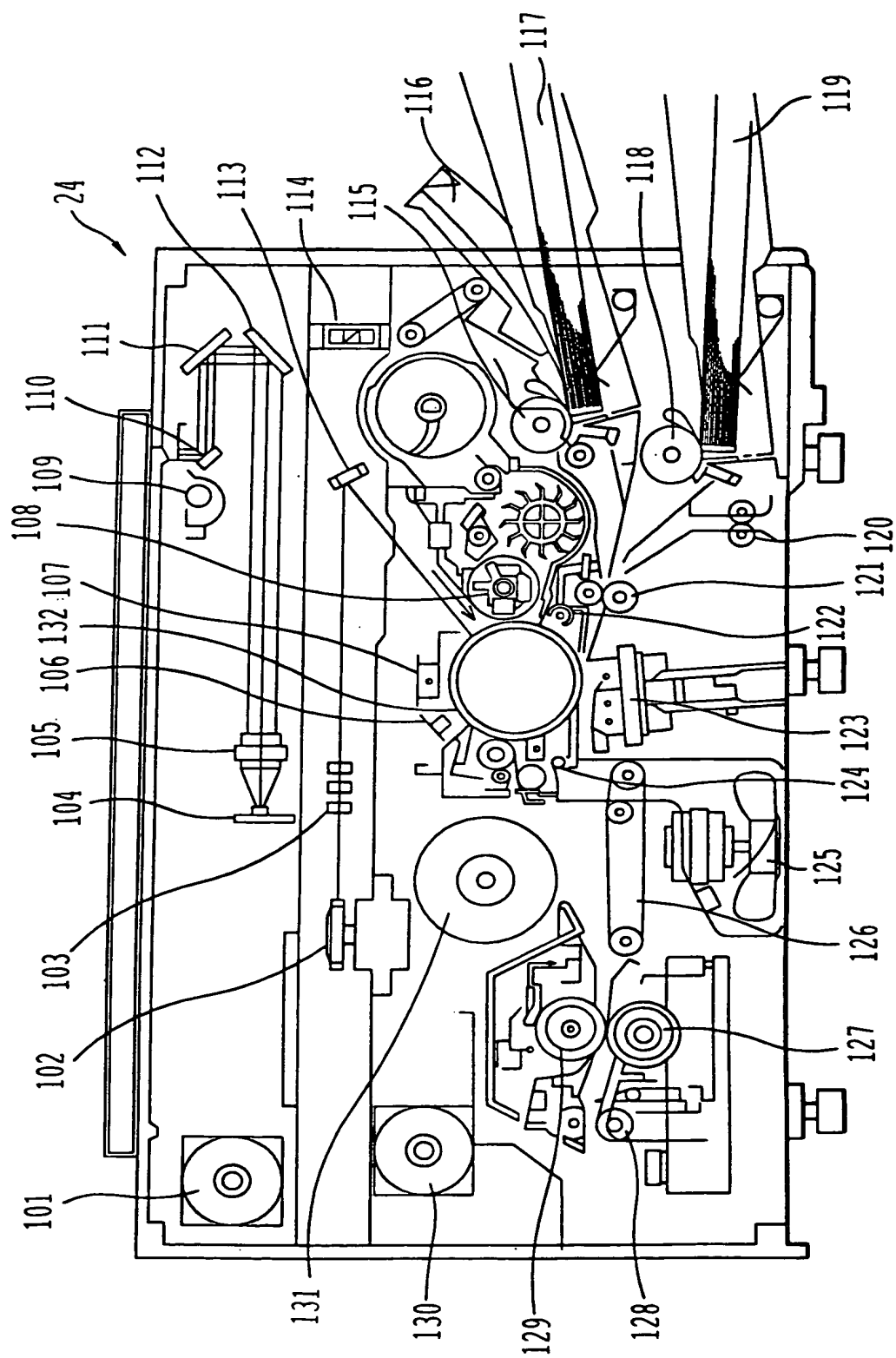


FIG. 2

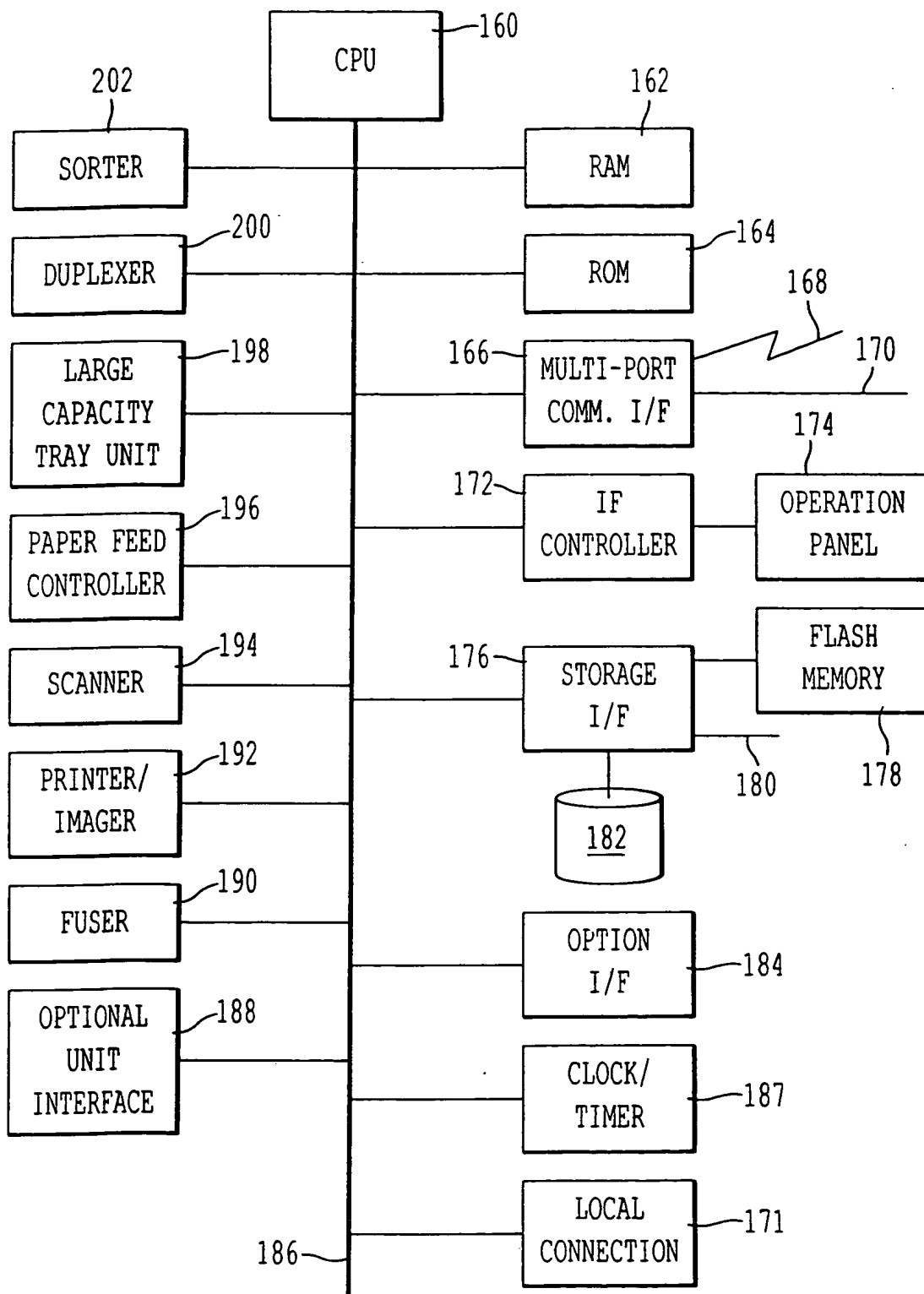


FIG. 3

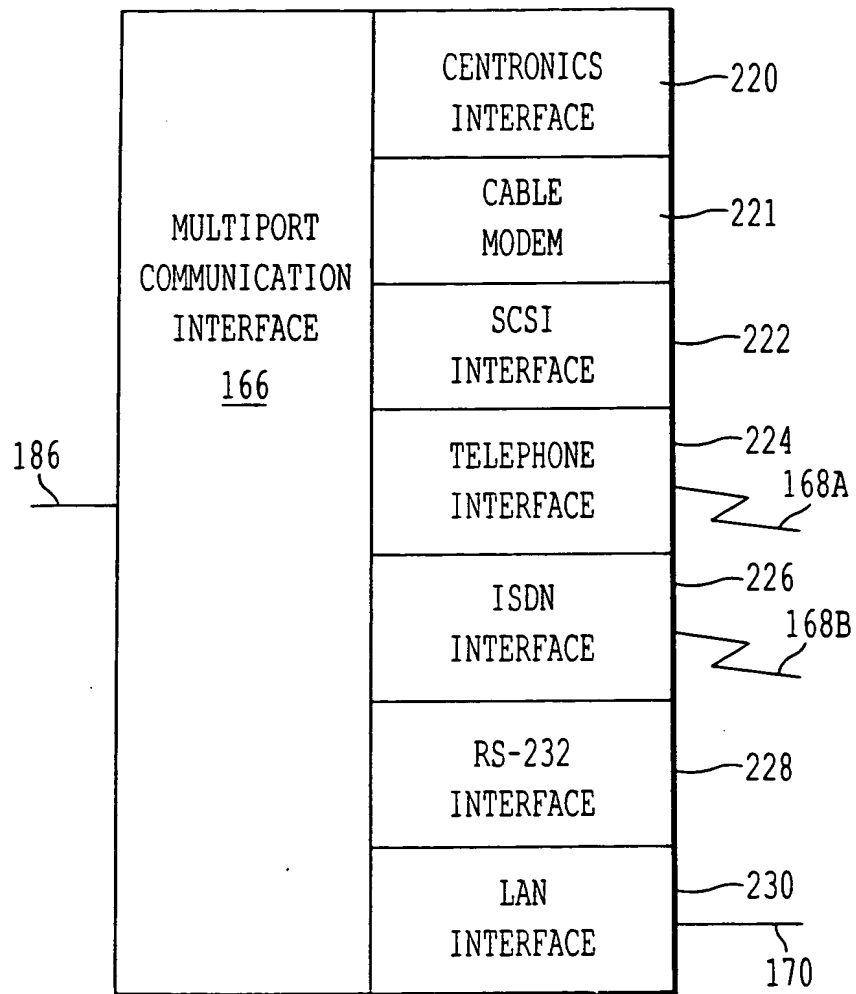


FIG. 4

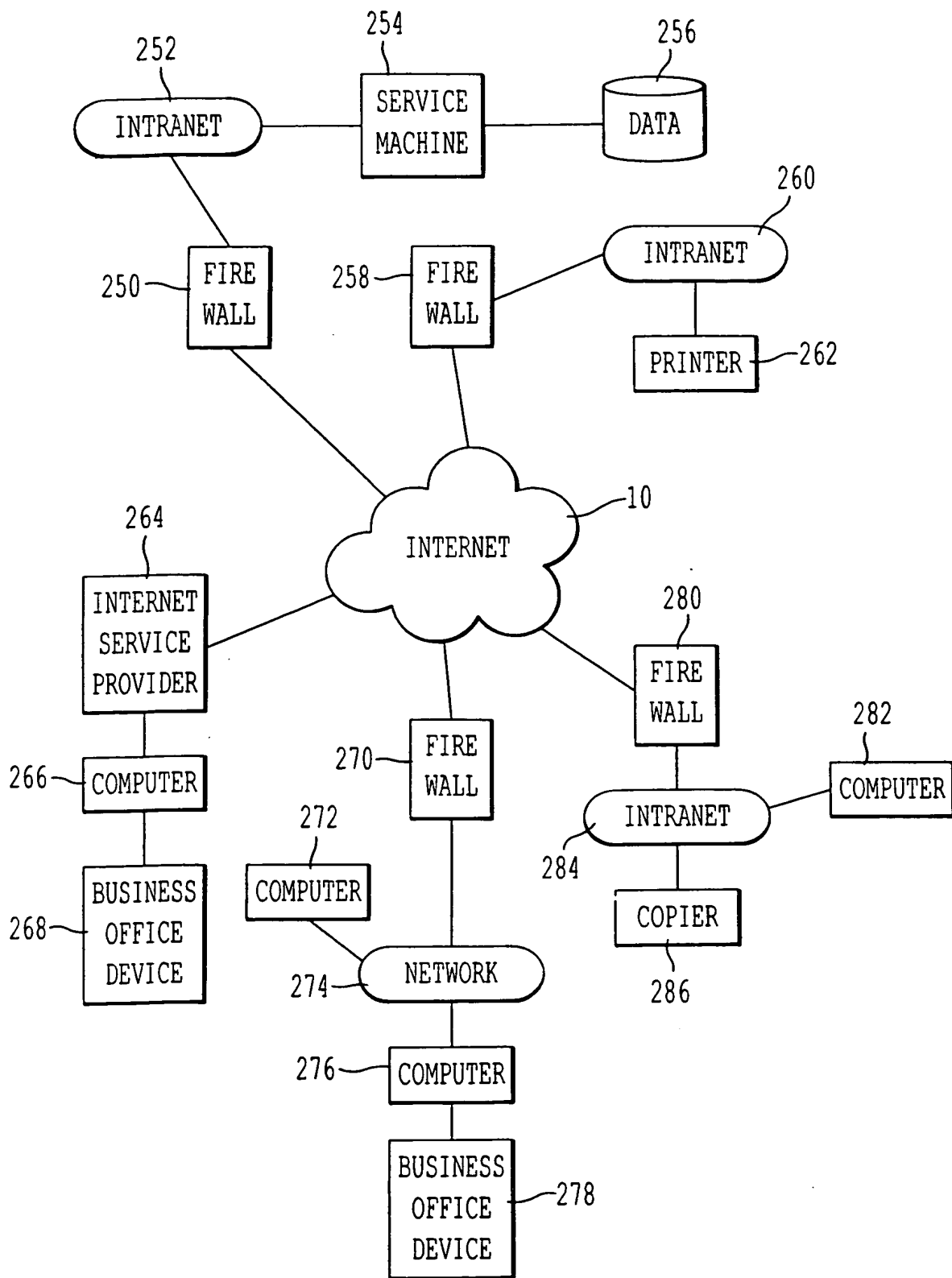


FIG. 5

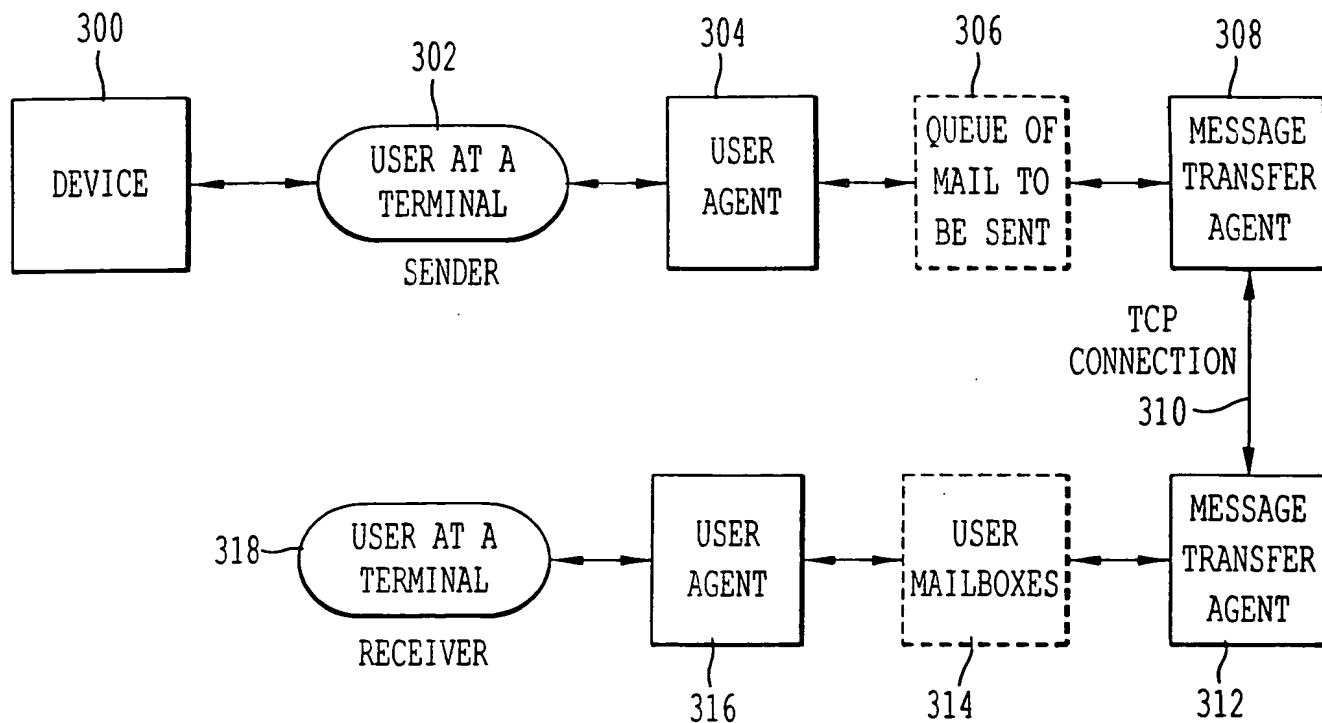


FIG. 6A

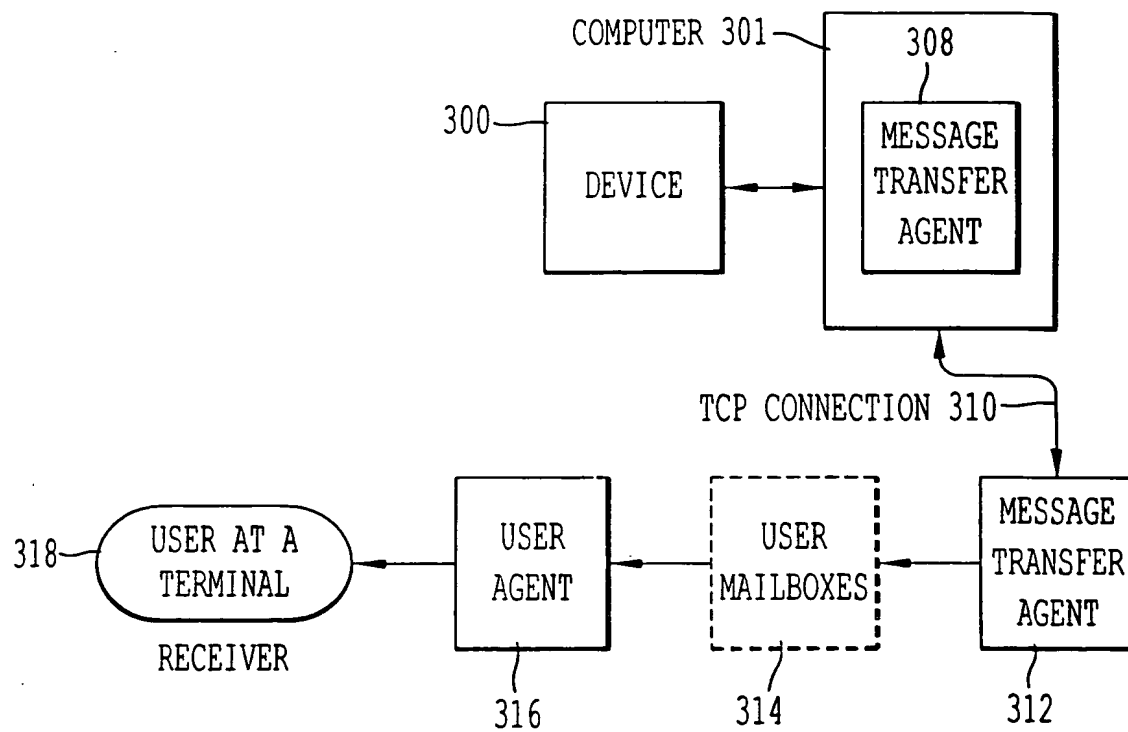


FIG. 6B

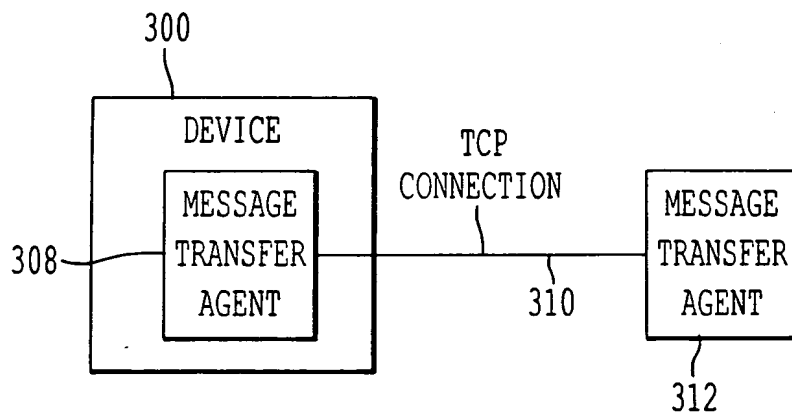


FIG. 6C

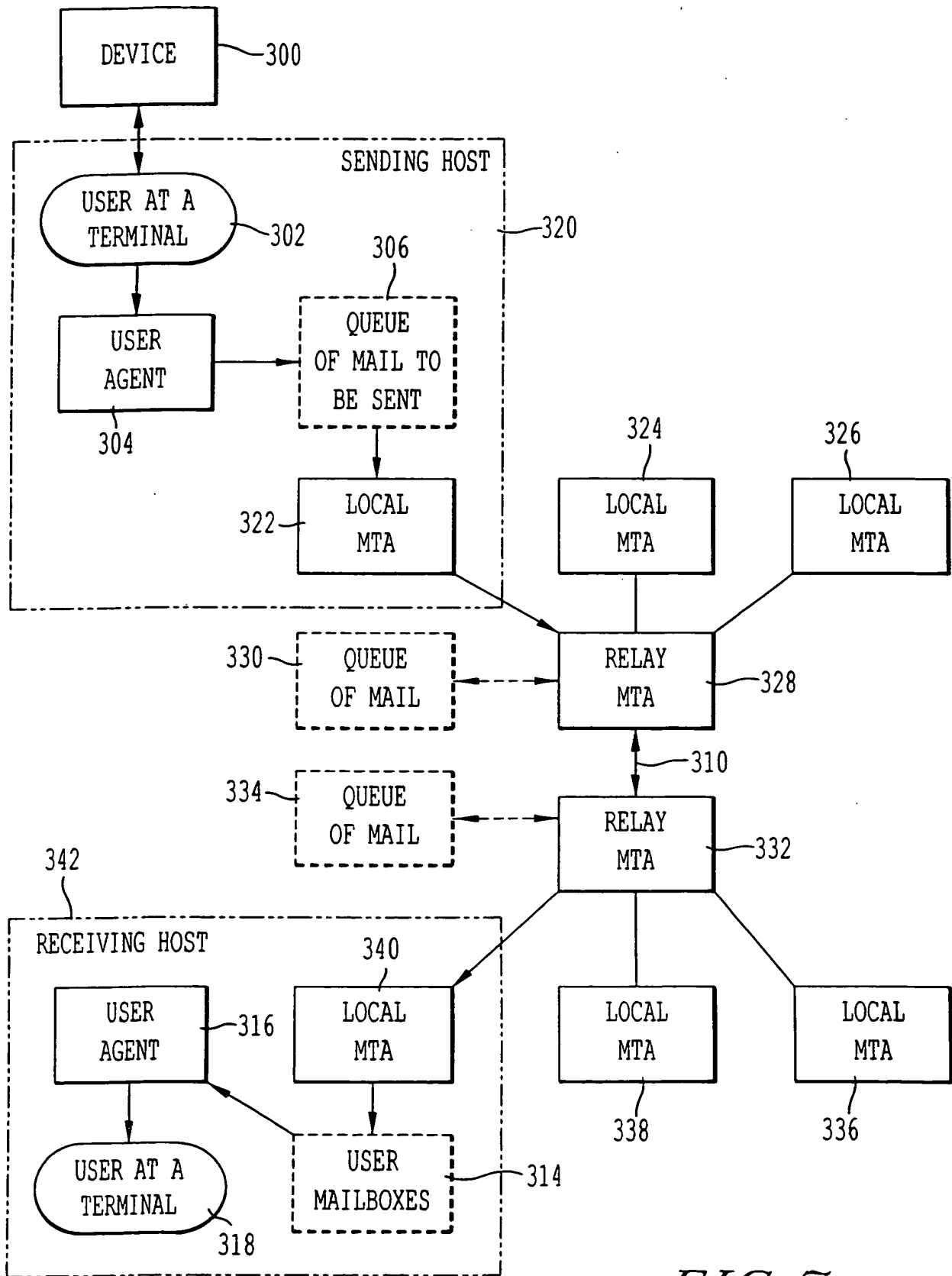


FIG. 7

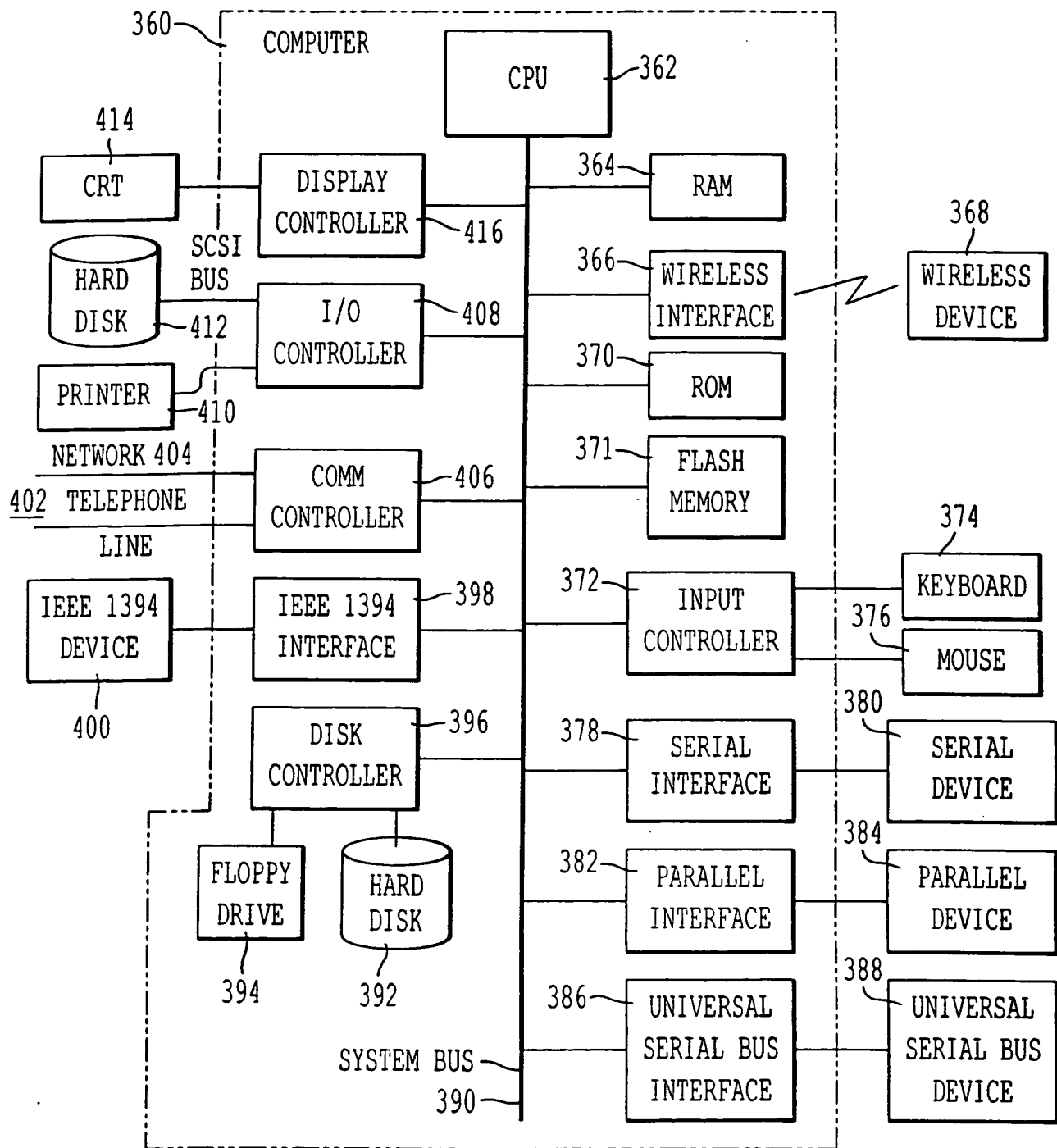


FIG. 8

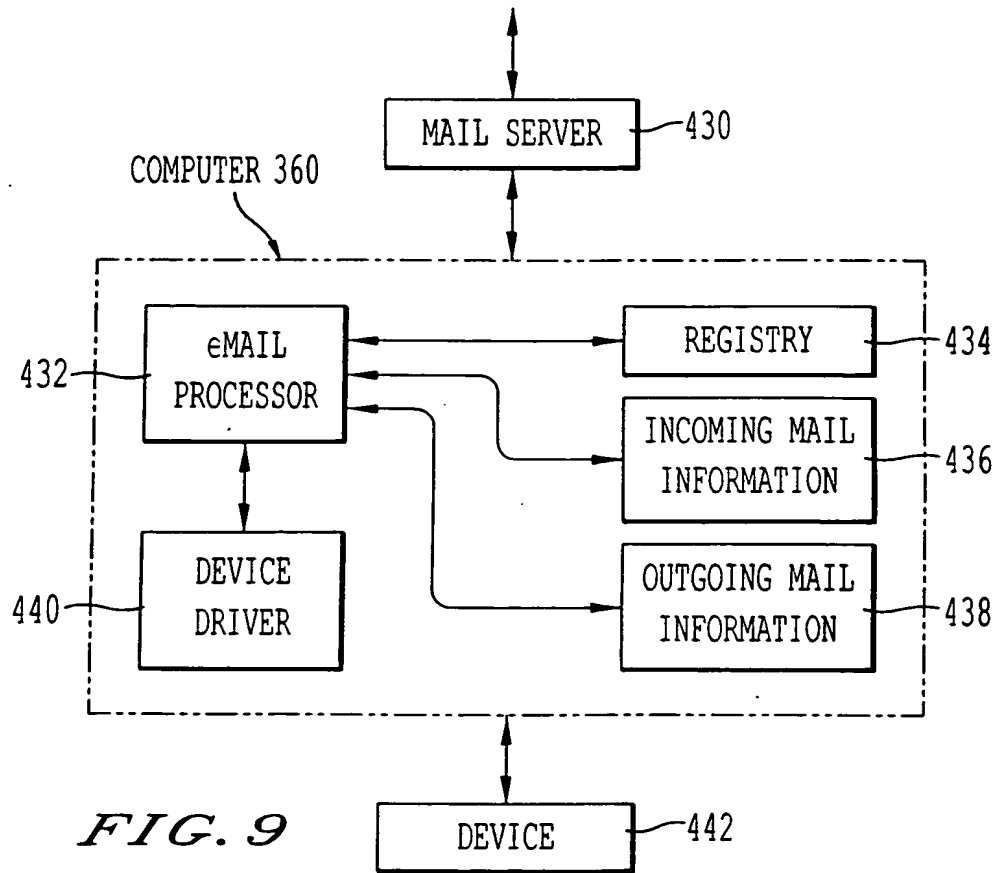


FIG. 9

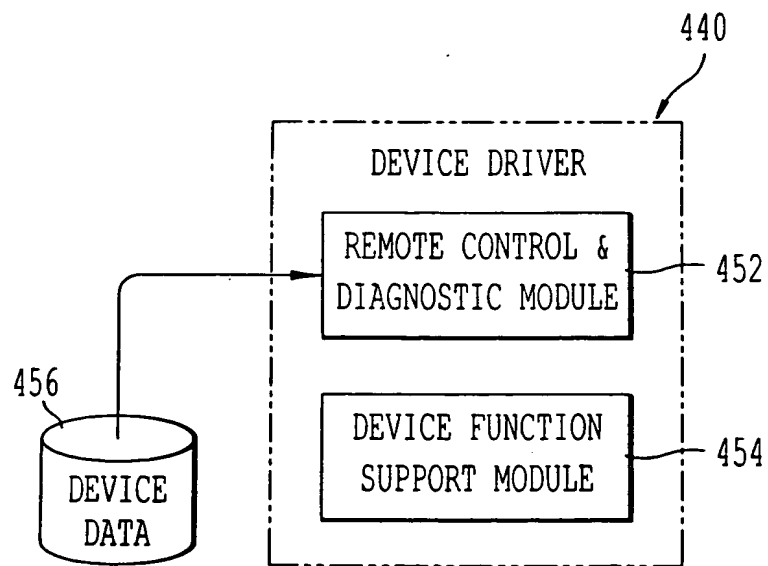


FIG. 10

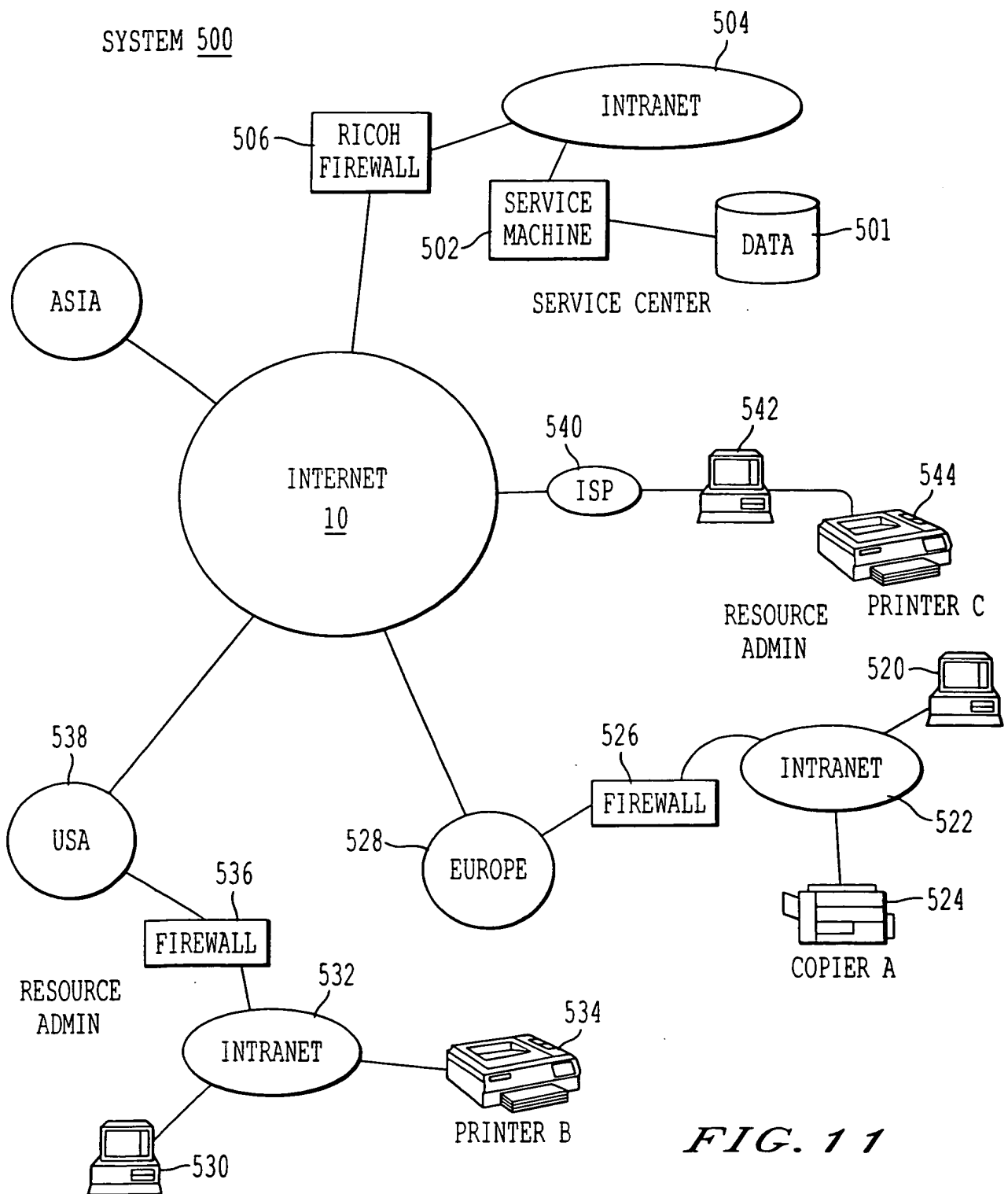


FIG. 11

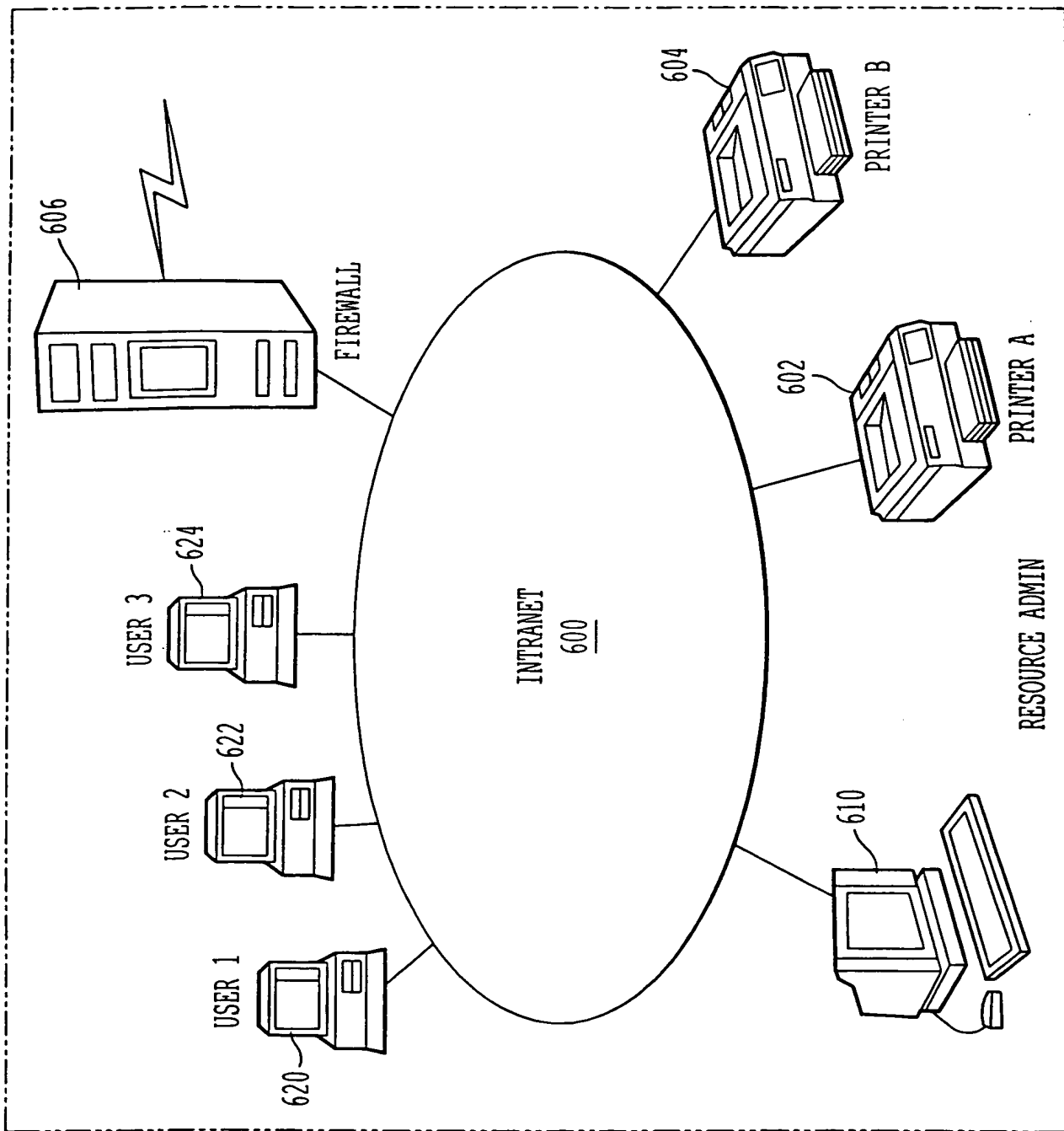


FIG. 12

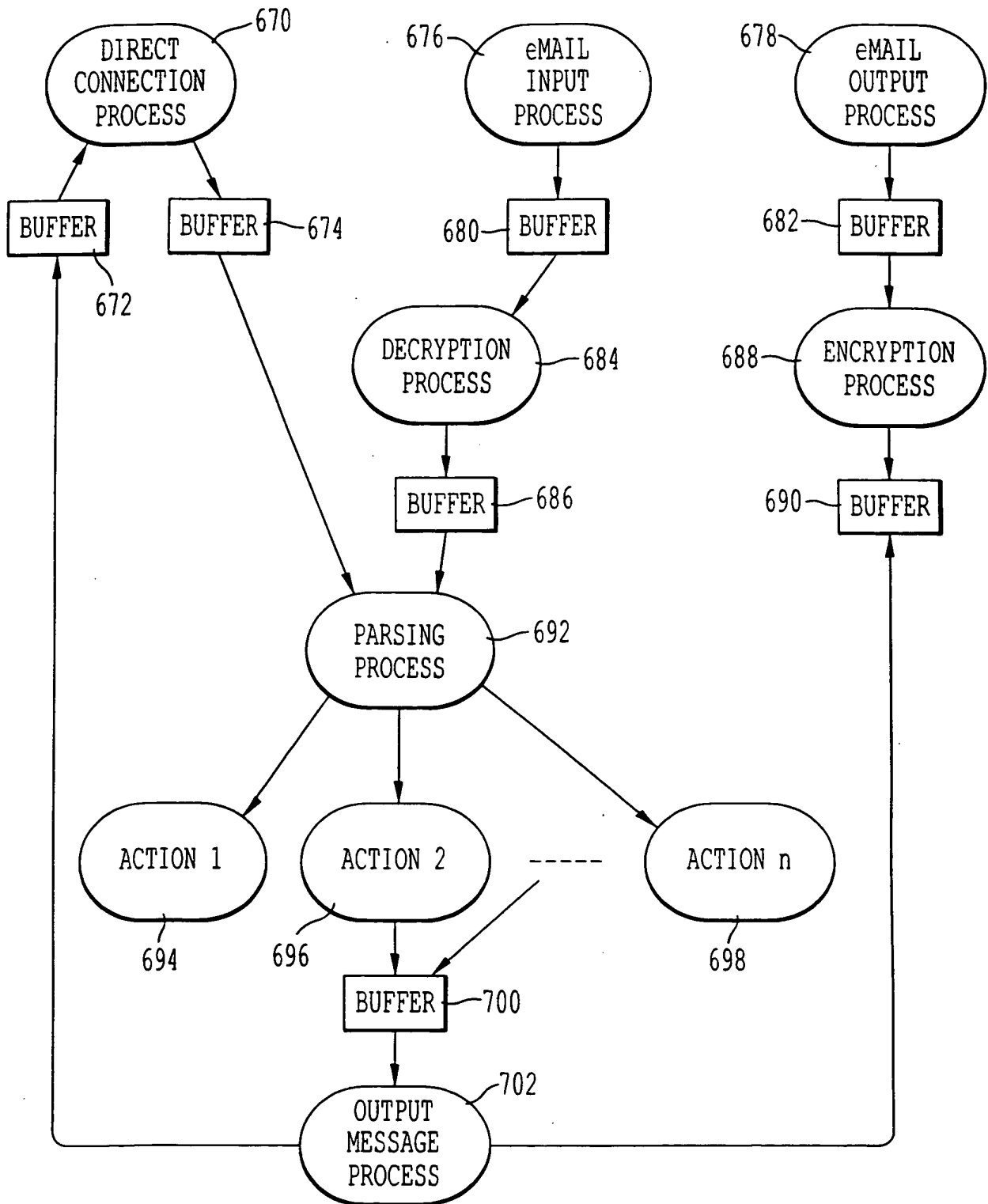


FIG. 13

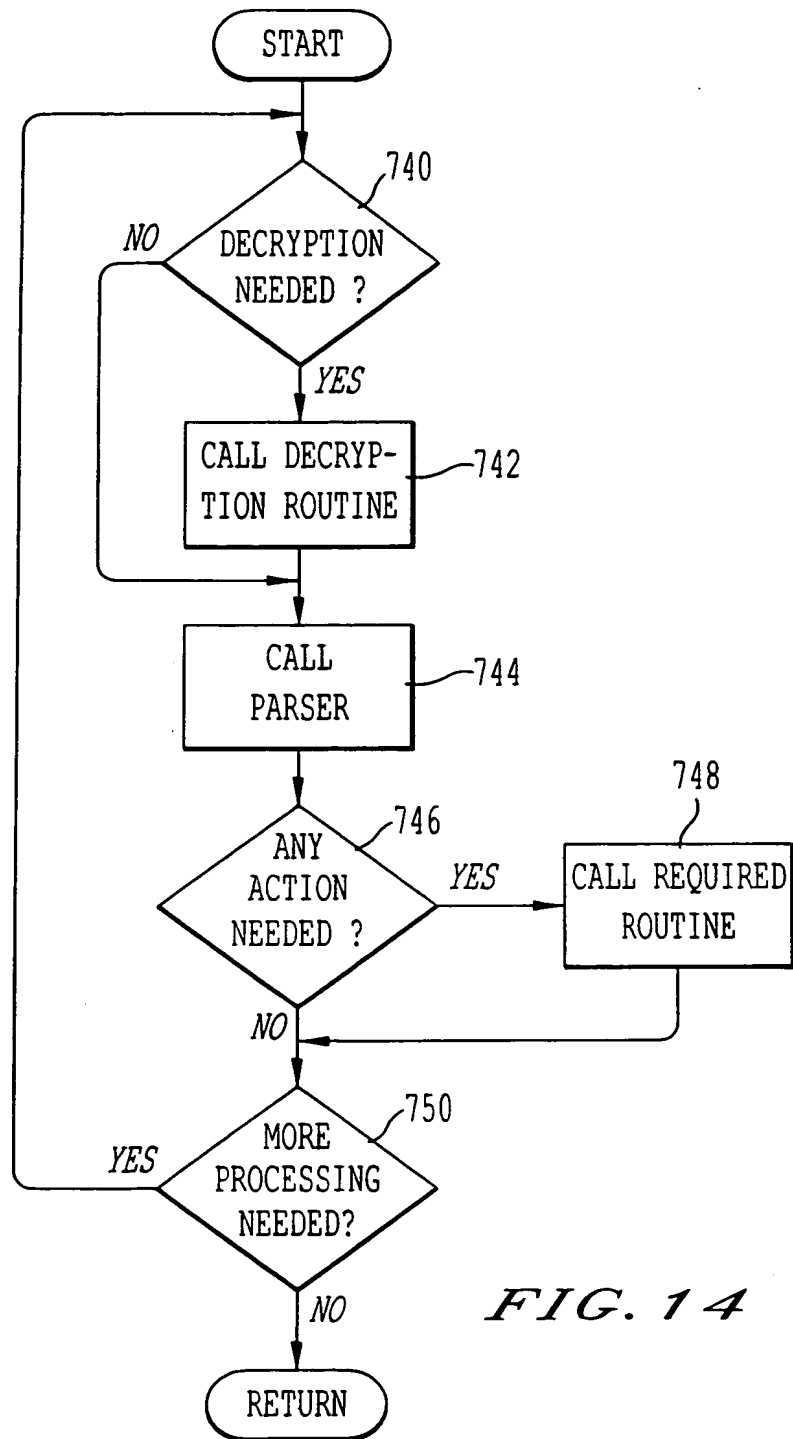


FIG. 14

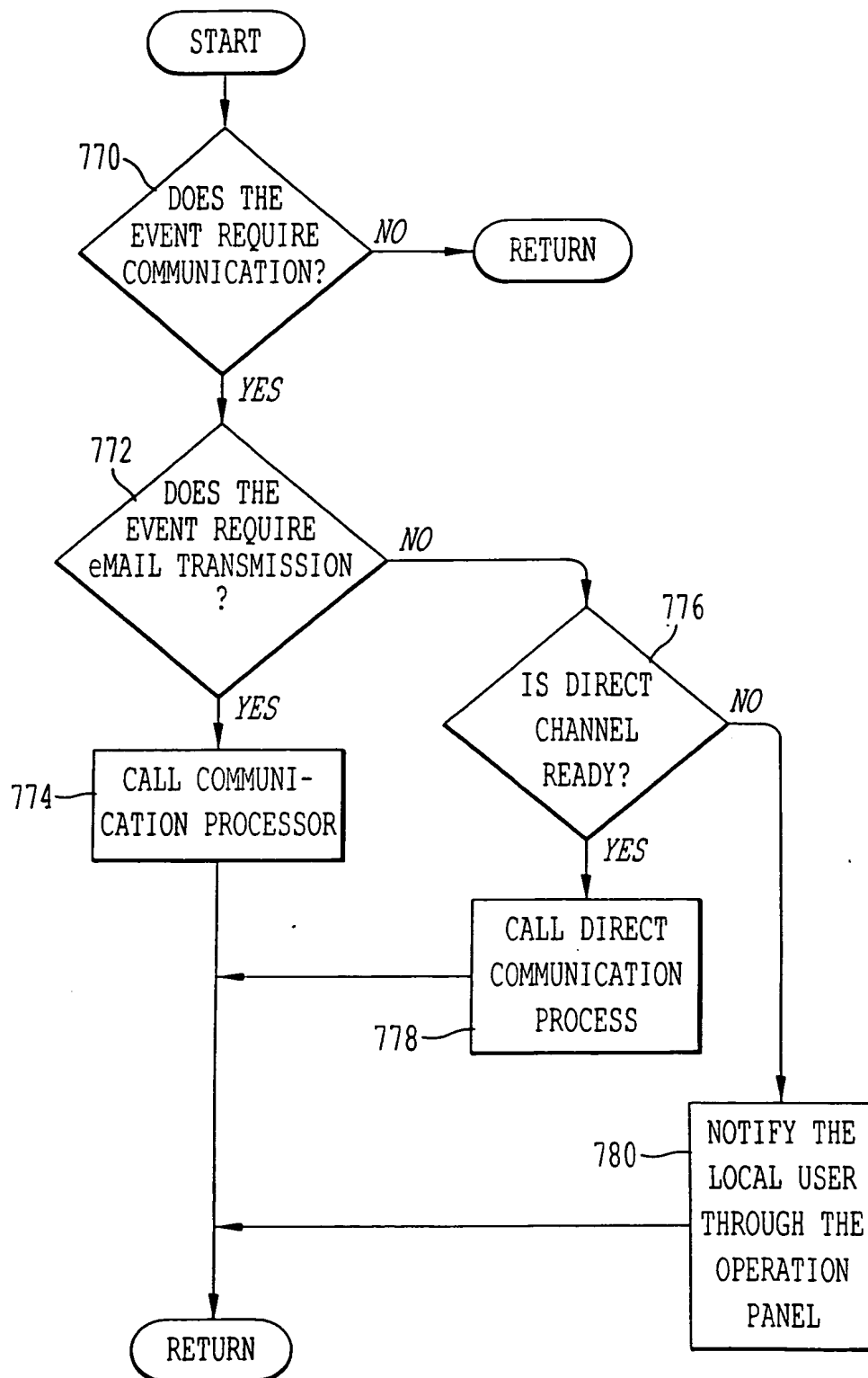


FIG. 15

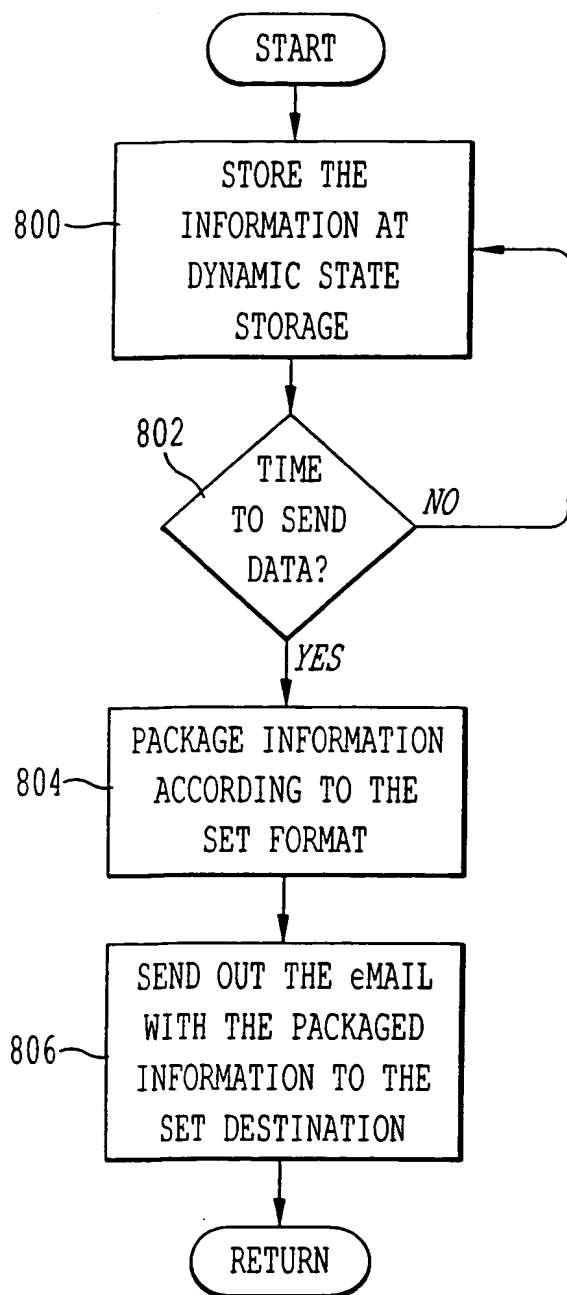


FIG. 16

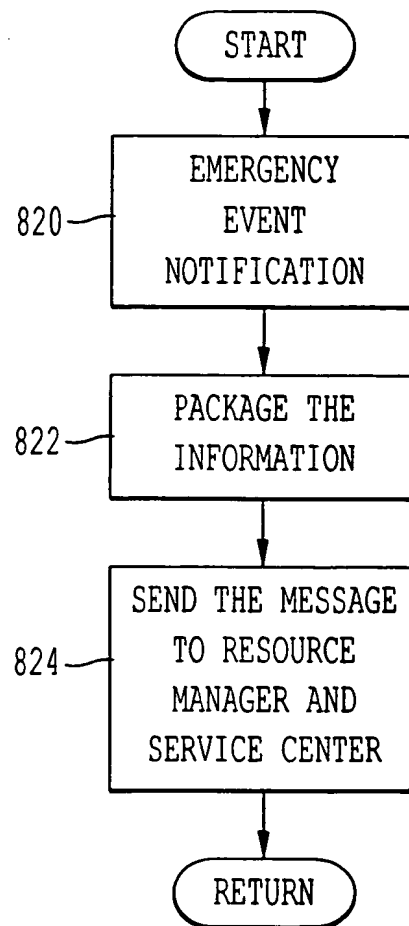


FIG. 17

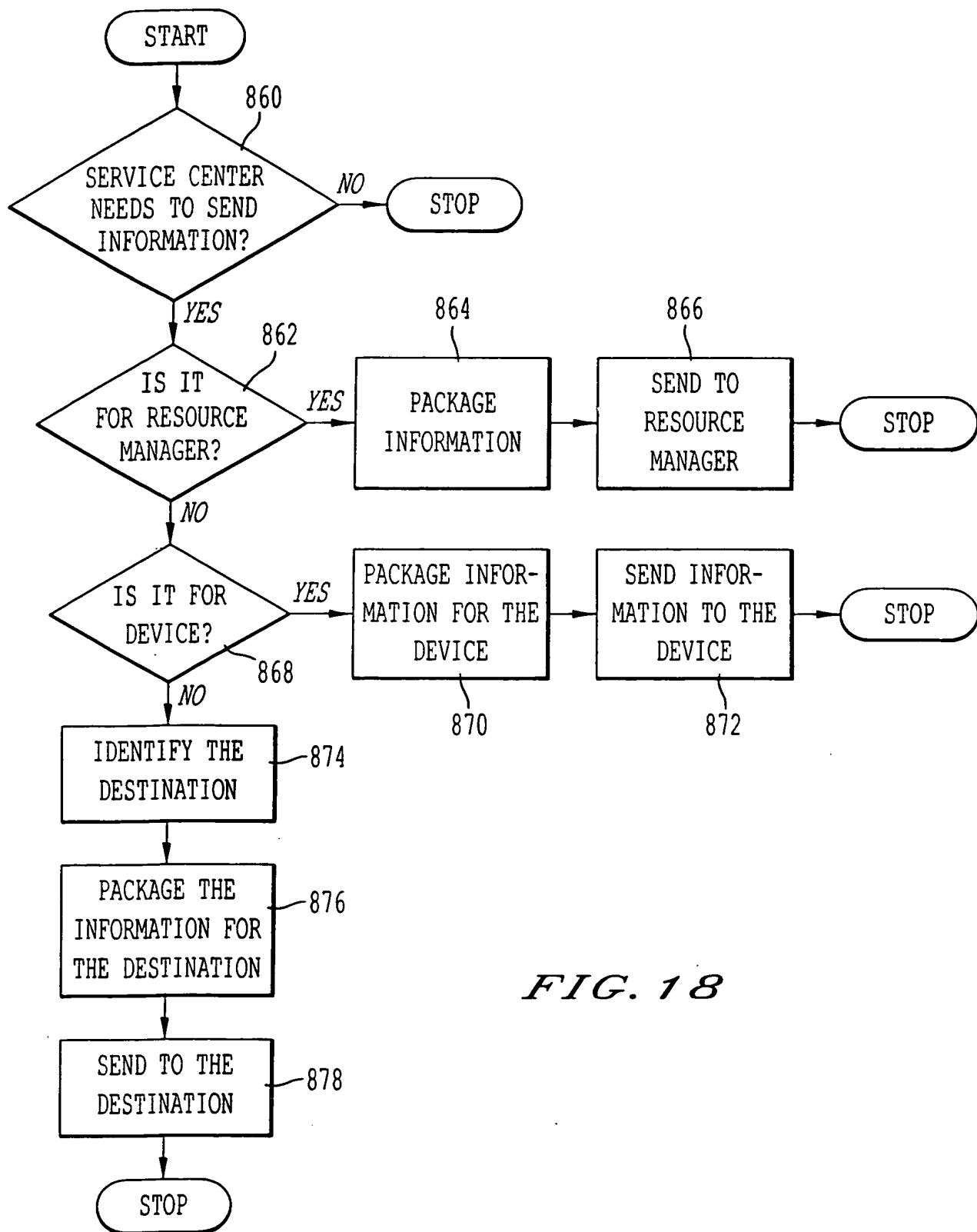


FIG. 18

1. From: entity@domain_name.com Mon March 29 7:20:50 1999
2. Date: Mon 29 March 1999 10:18:19 -0400
3. From: "Service Center" <entity@domain_name.com>
4. To: machine@office.com
5. Subject: Printer Summary Statistics
6. Mime-Version: 1.0
7. Content-...
8.
9. Dear Customer,
10. This message has originated from your printer company.
11.
12. We would like to analyze your printer and obtain summary statistics. Please
13. double-click on the attached executable file which will allow us to
14. analyze your printer and obtain summary statistics.
15.
16. Thank you for your cooperation.
17.
18. Signed, Company X

FIG. 19A

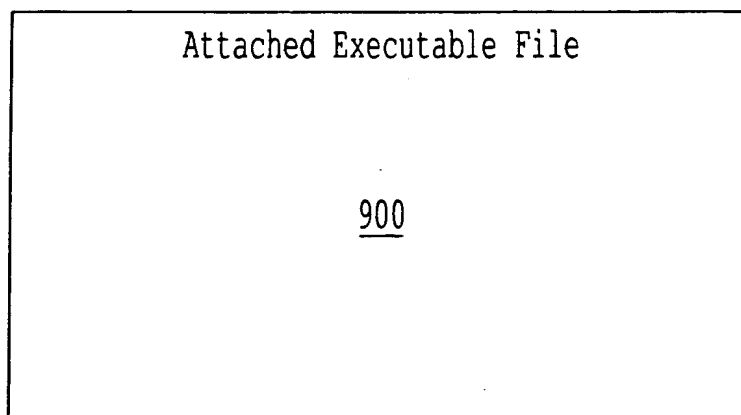


FIG. 19B

FROM: Service Center

CC:

TO: machine@office.com

SUBJECT: Printer Statistics

MESSAGE:

Dear Customer:

This message has originated from your printer company.

We would like to analyze your printer and obtain summary statistics. Please double-click on the attached executable file which will allow us to analyze your printer and obtain summary statistics. Thank you for your cooperation.

Signed, Company X.

ATTACHMENT(S):



SUMMARY.EXE

FIG. 20

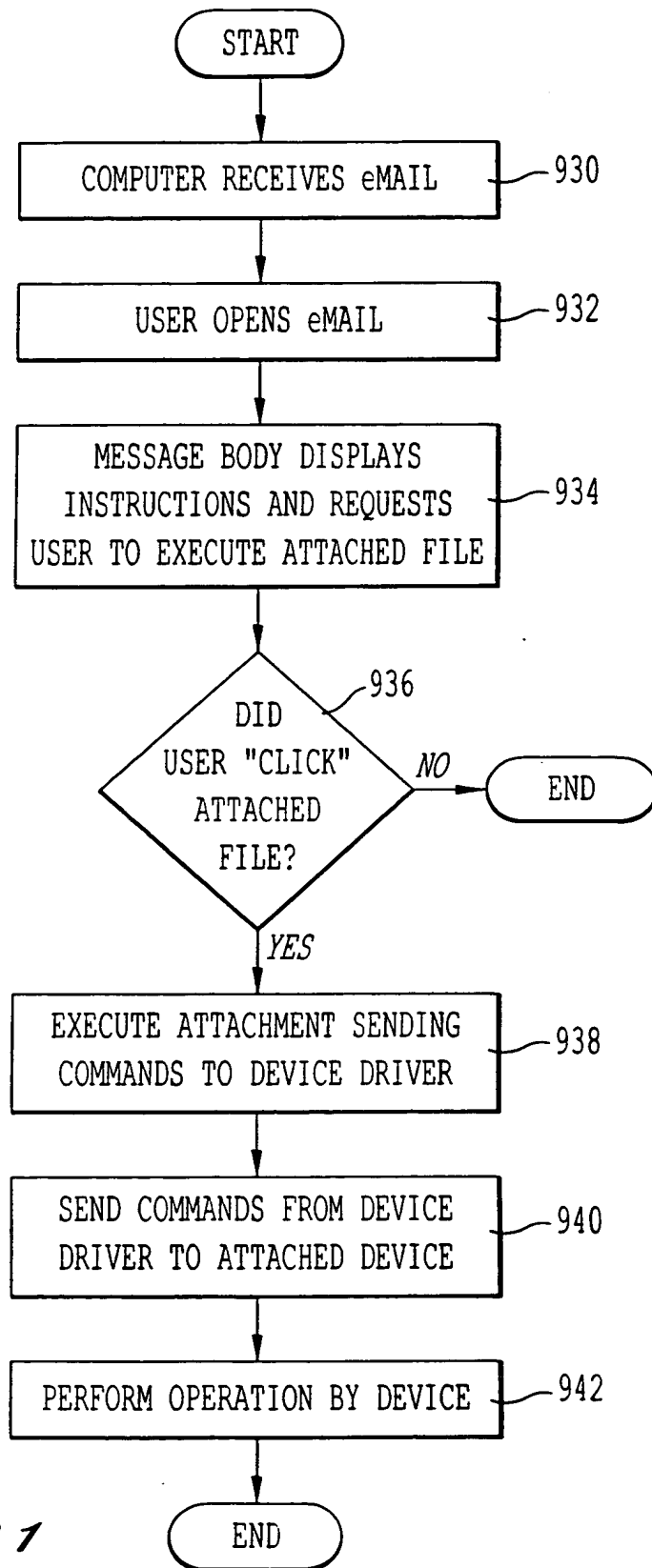


FIG. 21

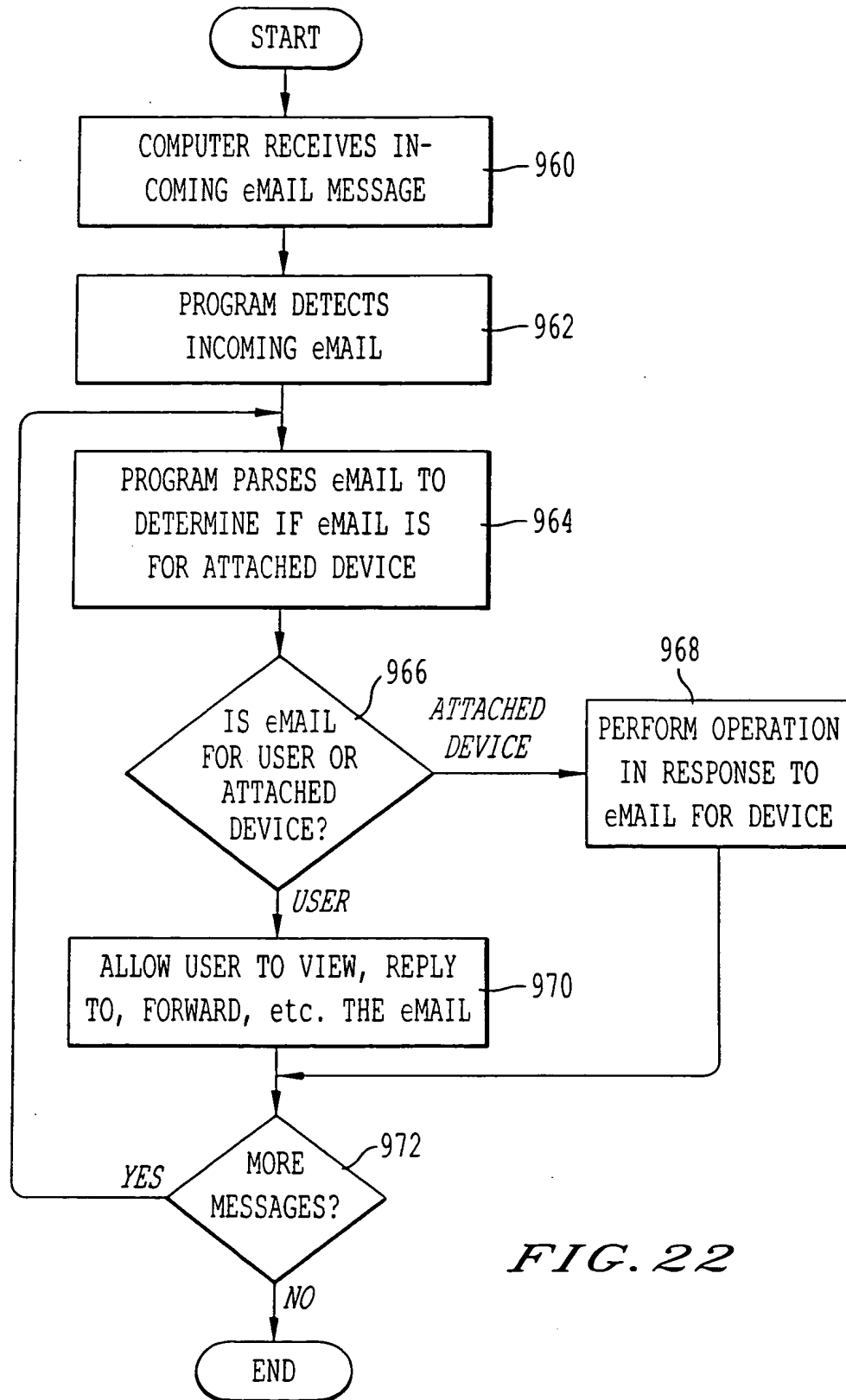


FIG. 22

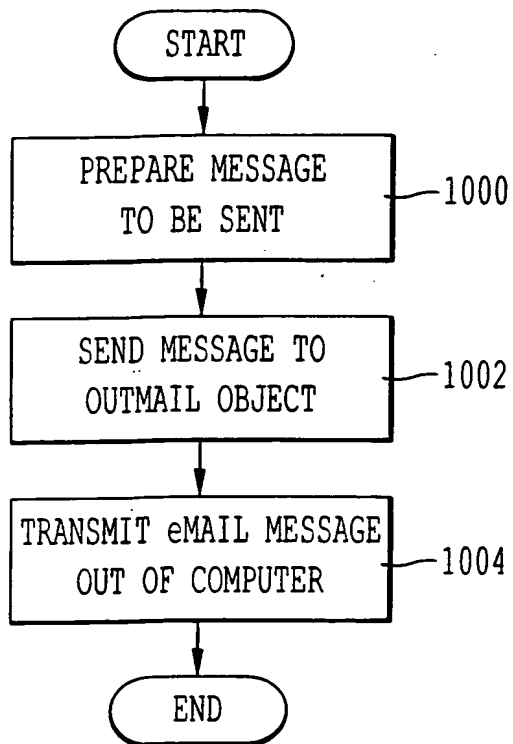


FIG. 23

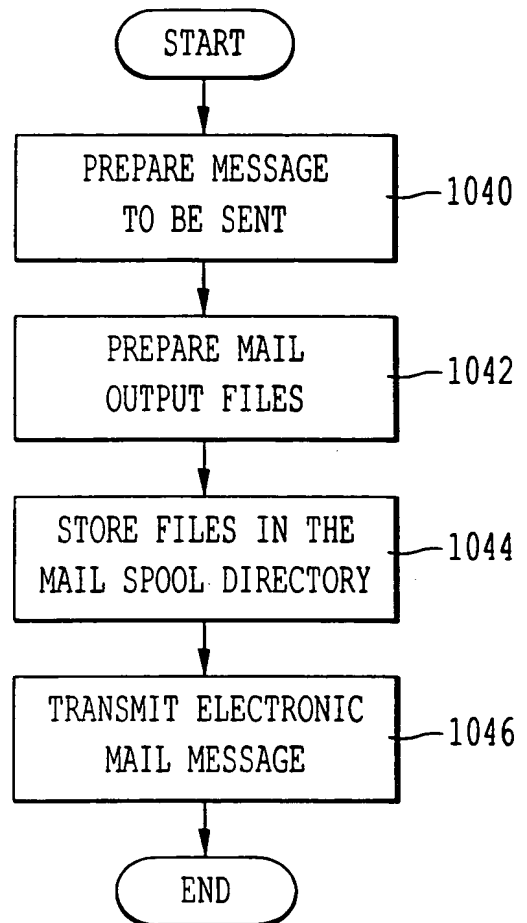


FIG. 24

1080

	DEVICE INFORMATION
1082	DEVICE ID
1084	DEVICE MODEL
1086	DEVICE TYPE
1088	DEVICE CAPABILITIES
1090	TOTAL NO. OF JAMS
1092	TOTAL NO. OF JOBS
1094	TOTAL NO. OF PAGES
1096	TOTAL NO. OF COLOR PAGES
1098	AVERAGE PAGES/JOB
1100	NO. OF JOBS SINCE LAST REPORT
1102	NO. OF PAGES SINCE LAST REPORT
1104	NO. OF COLOR PAGES SINCE LAST REPORT
1106	NO. OF JAMS SINCE LAST REPORT
1108	INFORMATION OF LAST 20 JOBS WITH TIME STAMPS
1110	INFORMATION OF LAST 20 ABNORMAL JOBS WITH TIME STAMPS

FIG. 25

Date 1 Jan 2001 Time 0:00 to 1:00 Japan time			
Machine	Location	Problem	Notified
XXXA1	CA, USA	Doc. Feeder Jam Freq. Trouble	IKON
XXYB2	UK	Tray Paper In Jam Too Many In Past one week	XXYZ
YYZZ3	Tokyo, Japan	Duplex Jam Last 10 tries	ABCD

1120

FIG. 26

Data on FT6650 in USA, YR 1999	
Total Installation	10,000,000
With Sorter	6,000,000
Average Copy Job per machine annually	20,000
Average use of Sorter	60%

1130

FIG. 27

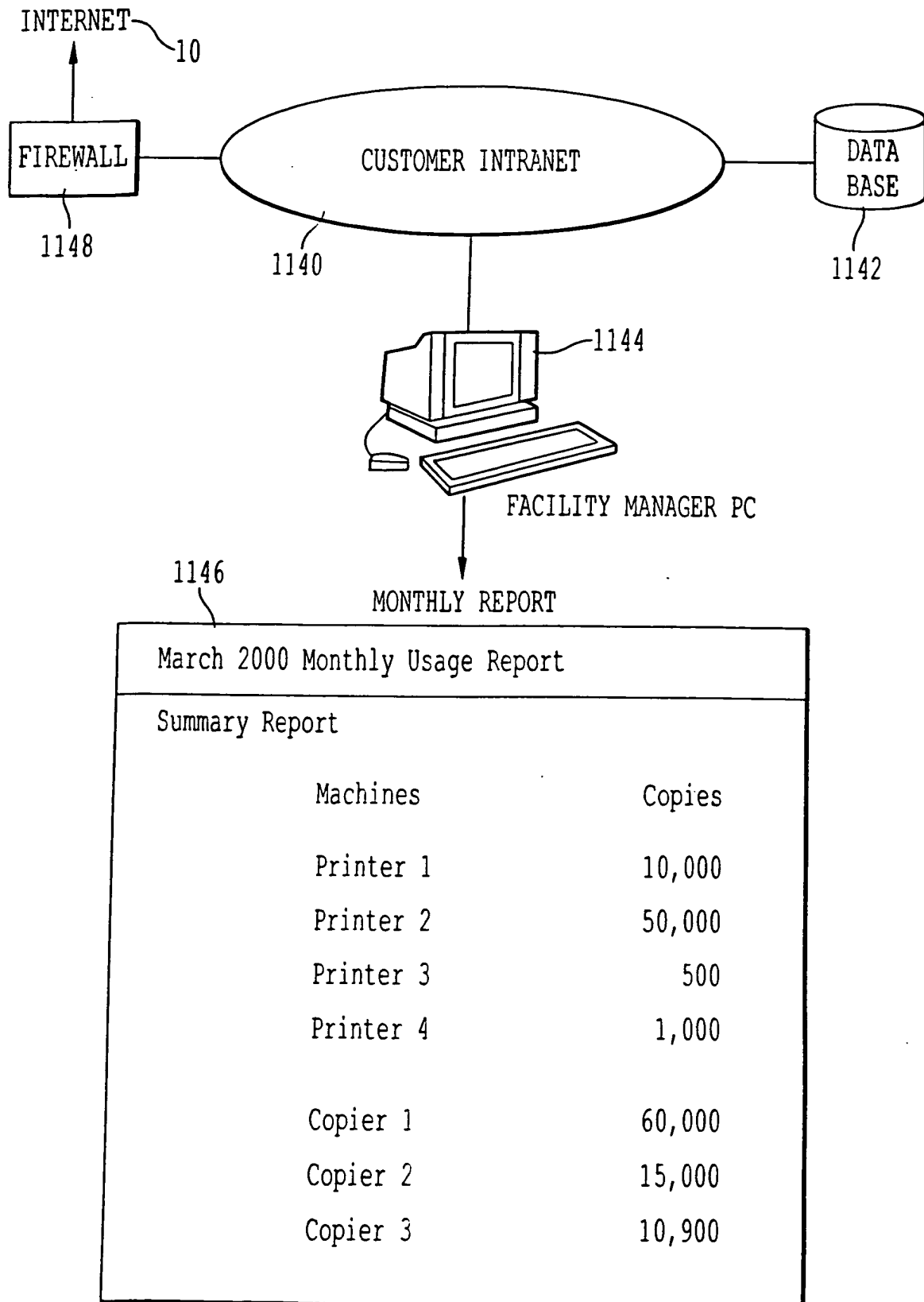


FIG. 28